

CLAIMS

1. An arrangement for managing a herd of animals, said arrangement comprising an animal identification system, characterized in that the arrangement is provided with a central unit (7) provided with a computer (8) having a memory (9), said memory (9) being adapted to contain per animal data in relation to the hierarchic order.

2. An arrangement as claimed in claim 1, characterized in that the arrangement is provided with a hierarchic order determining means for determining data in relation to the hierarchic order, said hierarchic order determining means supplying the data determined in relation to the hierarchic order to the memory (9) that stores these data.

15 3. An arrangement as claimed in claim 1 or 2, characterized in that the data are updated in the memory (9).

4. An arrangement as claimed in any one of the preceding claims, characterized in that the arrangement manages the herd at least with the aid of data regarding the 20 hierarchic order stored in the memory (9).

5. An arrangement as claimed in any one of the preceding claims, characterized in that the memory (9) is adapted to contain per animal data in relation to the jostling behaviour.

25 6. An arrangement as claimed in claim 5, characterized in that the arrangement manages the herd at least with the aid of data regarding the jostling behaviour stored in the memory (9).

30 7. An arrangement as claimed in any one of the preceding claims, characterized in that the central unit (7) comprises an input means for inputting, e.g. by a farmer, per animal data regarding the hierarchic order respectively the jostling behaviour.

35 8. An arrangement as claimed in any one of the preceding claims, characterized in that the arrangement is

provided with an area (4; 6) for containing a number of animals, said area (4; 6) having an entrance gate (16, 17, 18; 23, 25) respectively an exit gate (21, 22, 23; 34, 35, 36), the operation of at least one of the gates being controlled at least with the aid of data from the memory (9).

9. An arrangement as claimed in claim 8, characterized in that the area (4; 6) is provided with at least two entrance gates respectively exit gates.

10. An arrangement as claimed in claim 8 or 9, characterized in that the area (4) is constituted by a treatment area.

11. An arrangement as claimed in claim 10, characterized in that the treatment area is constituted by a milking parlour (4) provided with a milking robot (5).

15. 12. An arrangement as claimed in claim 11, characterized in that in front of the entrance gate respectively the entrance gates of the milking parlour (4) there is provided a further area (6) having at least one entrance gate for containing a limited number of animals.

20. 13. An arrangement as claimed in claim 12, characterized in that the arrangement comprises a detection device (29) for detecting animals in the further area (6) and for issuing a detection signal, a detection signal indicating that animals are present in the further area (6) keeping the entrance gate of the further area closed.

25. 14. An arrangement as claimed in any one of the preceding claims, characterized in that the arrangement is provided with a feeding station (3a, 3b) with a feeding trough (42, 43), an entrance opening (44, 45) to the feeding trough (42, 43), a closing means (46, 43) for closing the entrance opening (44, 45), and a feed supplying device (56, 55) for intermittently supplying a quantity of fodder and/or drink into the feeding trough (42, 43), the feeding trough (42, 43) being adapted to be closed at least with the aid of 35 data from the memory (9).

15. An arrangement as claimed in claim 14, characterized in that the arrangement comprises a feeding station (3a, 3b) with several juxtaposed feeding troughs (42, 43), each feeding trough (32) being adapted to be closed at 5 least with the aid of data from the memory (9).

16. An arrangement as claimed in claim 14 or 15, characterized in that the arrangement is provided with a detection device (57, 58) for determining the quantity of feed present in the feeding trough (43, 42) at a point of 10 time after the supply of a quantity of fodder and/or drink and for issuing a first signal for operating the closing means (43, 46) in dependence of the result of the quantity determination.

17. An arrangement as claimed in claim 16, 15 characterized in that the detection device (57, 58) comprises a weighing device for weighing the quantity of feed present in the feeding trough.

18. An arrangement as claimed in claim 16 or 17, characterized in that the detection device (57, 58) comprises 20 a clock.

19. An arrangement as claimed in claim 18, characterized in that the arrangement is provided with a clock for determining the duration from the supply of a 25 quantity of fodder and/or drink and for issuing, in dependence of the result of the determination of the duration, a second signal for operating the closing means (43, 46).

20. An arrangement as claimed in claims 16 and 19, characterized in that the arrangement is provided with a 30 closing means operating device for operating the closing means (43, 46) on the basis of the first and/or second signal.

21. An arrangement as claimed in any one of the preceding claims 14 to 20, characterized in that there is

provided a device (47, 48) for detecting jamming for the closing means (43, 46).

22. An arrangement as claimed in any one of the preceding claims 14 to 21, characterized in that there is
5 provided an obstacle detector (49, 50) for detecting an obstacle in the entrance opening (44, 45).

23. An arrangement as claimed in any one of the preceding claims 14 to 22, characterized in that there is provided an anti-violence detector (51, 52).

10 24. An arrangement as claimed in any one of the preceding claims 14 to 23, characterized in that there is provided a device for issuing a warning signal indicating that the closing means (43, 46) is going to close.

25. An arrangement as claimed in any one of the preceding claims 14 to 24, characterized in that the feeding station is provided with an animal identification device for identifying an animal, the closing means (43, 46) being operated with the aid of data from the animal identification device.

20 26. An arrangement as claimed in claims 15 and 17 and 25, and 18 respectively 19, characterized in that the computer is programmed in such a manner that the closing means (43, 36) of a third feeding trough is operated when the data in the memory indicate that, within a predetermined 25 period of time, an animal has taken less than a first quantity of fodder from a first feeding trough, and less than a second quantity of fodder from a second feeding trough.

27. An arrangement as claimed in claim 26, characterized in that the first and/or second quantity 30 amount(s) to 0.75 kg.

28. An arrangement as claimed in claim 26 or 27, characterized in that the period of time amounts to 15 minutes.

29. An arrangement as claimed in any one of the preceding claims, characterized in that the arrangement is
35

22547293

provided with a camera (29, 30, 31) for observing the behaviour of an animal.

30. An arrangement as claimed in any one of the preceding claims, characterized in that the arrangement is 5 provided with means of punishment (37, 38, 39) for punishing animals impeding the management of the herd.

31. An arrangement as claimed in claim 30, characterized in that the means of punishment comprise loudspeakers (37).

10 32. An arrangement as claimed in claim 30 or 31, characterized in that the means of punishment comprise punishment means (34, 35, 36) that are adapted to be put under electric tension.

15 33. An arrangement as claimed in claim 30, 31 or 32, characterized in that the means of punishment comprise blowing means (38).

20 34. An arrangement as claimed in any one of the preceding claims 30 to 32, characterized in that the punishment means comprise a punishment device that is movable from an invisible to a visible position.

25 35. An arrangement as claimed in claim 34, characterized in that the punishment device is constituted by an inflatable object e.g. in the form of a cow, a wall or the like; a picture showing a frightening image; a partition wall or guide wall or the like.

36. An arrangement as claimed in claims 30 to 35, characterized in that the means of punishment comprise a punishment path (27) that can be reached via an exit gate (21 - 26).

30 37. An arrangement as claimed in any one of claims 30 to 35, characterized in that the means of punishment comprise a vehicle (39) moving forward automatically.

35 38. An arrangement as claimed in claim 37, characterized in that the animals are provided with an animal identification adapted to be detected by a positioning system

for determining the position of the animal, and in that the vehicle (39) moving forward automatically is controlled at least with the aid of data from the positioning system.

39. A device for monitoring an animal, characterized in
5 that the device comprises a means for determining the hierarchic order.

40. An arrangement as claimed in claim 2 or 38,
characterized in that the means for determining the hierarchic order comprises a camera.

10 41. An arrangement as claimed in claim 2, 38 or 40,
characterized in that the means for determining the hierarchic order determines the order in which animals enter
respectively leave an area.

15 42. An arrangement as claimed in claim 2, 38 or 40,
characterized in that the means for determining the hierarchic order determines the order in which animals make
use of a feeding and/or drinking station.

20 43. A method of managing a herd of animals, in which
method a number of automatic animal related treatments are
performed, characterized in that the method comprises the
step of determining the hierarchic order of an animal.

25 44. A method as claimed in claim 43, characterized in
that the performance of at least one of the automatic animal
related treatments is controlled at least on the basis of the
determined hierarchic order of an animal.

30 45. A method as claimed in claim 43 or 44,
characterized in that the method comprises the step of
determining the jostling behaviour of an animal, the
performance of at least one of the automatic animal related
treatments being controlled at least on the basis of the
determined jostling behaviour of an animal.

46. A method as claimed in any one of the preceding
claims 43 to 45, characterized in that the animal related
treatment comprises opening respectively closing of a gate.

47. A method as claimed in any one of the preceding claims 43 to 46, characterized in that the animal related treatment comprises giving access to a feeding trough.

5 48. A method as claimed in any one of the preceding claims 43 to 47, characterized in that the determination of the hierarchic order of the animals takes place by manual input of data based on experience.

10 49. A method as claimed in any one of the preceding claims 43 to 48, characterized in that the hierarchic order respectively the jostling behaviour is determined and/or updated by determining the order in which animals of a herd enter respectively leave an area.

15 50. A method as claimed in any one of the preceding claims 43 to 48, characterized in that the hierarchic order respectively the jostling behaviour is determined and/or updated by determining the order in which animals of a herd make use of a feeding and/or drinking station.

100-922307